

PRODUCT DATA SHEET

SikaLatex[®]-141

(formerly MasterCast[®] 141)

Multi-purpose admixture for cementitious systems. Waterproofs and improves mortars. Bonding agent.

DESCRIPTION

SikaLatex[®]-141 is a (SBR) styrene-butadiene co-polymer latex specifically designed for use with cement compositions. It is used in mortar and concretes as an admixture to increase resistance to water penetration, improve abrasion resistance and durability. It is used with cement as a reliable water-resistant bonding agent.

USES

- Concrete repair.
- Floor screeds and toppings.
- External rendering.
- Waterproofing and tanking.
- Fixing slip bricks and tiles.
- Corrosion protection of steel.

Concrete repair:

Spalled concrete, repairing floors, beams and precast slabs.

Floor screeds and toppings:

Abrasion resistant and non-dusting floors, underlay for special finishes, mild chemical, and effluent-resistant floors.

External rendering:

Waterproof, weatherproof and frost resistant render.

Waterproofing and tanking:

Basements, lift pits, inspection pits, water towers, liquid tanks. Effluent tanks and swimming pools.

Other typical applications:

Bedding tiles, fixing or re-fixing slip bricks, bonding new concrete to old.

CHARACTERISTICS / ADVANTAGES

- Earlier hardening.
- Improved flexibility.

- Greatly reduced shrinkage.
- Prevents bleeding.
- Lower water-cement ratio.
- Increased durability and toughness.
- High resistance to water penetration.
- Good abrasion resistance.
- Good frost resistance and resistance to salt permeation.
- Good resistance to many chemicals and to mineral oil.
- Excellent adhesion to steel and concrete. Adheres well to brick, glass, asphalt, wood, expanded polystyrene and most building materials.
- Prolonged corrosion protection.
- Proven performance.
- Similar thermal expansion and modulus properties to concrete (unlike resin mortars and primers).
- Non-toxic. Can be used with potable water.
- More economical than epoxy or polyester resin mortar.

ACTION

The use of SikaLatex[®]-141 synthetic latex in cement-based slurries and mortars compensates for many deficiencies in the mixes without detracting from their inherent strength and properties.

SikaLatex[®]-141 has been developed specifically for use with Portland cements. As ordinary mortar dries out, voids are left which make it permeable and weaker. When SikaLatex[®]-141 is added, the SikaLatex[®]-141 particles bind together to form continuous films and strands - these stitch the opposite sides of the voids together and block up the spaces, thus increasing strength and resistance to water penetration. SikaLatex[®]-141 combined with cement produces an excellent adhesive; each component compliments the properties of the other in this respect.

PRODUCT INFORMATION

Composition	SikaLatex®-141 is a milky, white liquid latex, produced from styrene and butadiene by high pressure emulsion polymerisation. The latex consists of microscopic particles of synthetic rubber dispersed in an aqueous solution. SikaLatex®-141 modified mixes may be slightly darker than corresponding unmodified mixes.
Packaging	SikaLatex®-141 is supplied in 20 and 200 litre containers.
Shelf life	12 months from the date of manufacture, if kept in an sealed container and stored correctly,
Storage conditions	Store under cover, out of direct sunlight and protect from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult the Sika Technical Services Department.
Appearance / Colour	Milky, white liquid
Density	1.010 – 1.040
Solid content by mass	40 ± 1% Butadiene content
pH-Value	7.0 – 9.0

TECHNICAL INFORMATION

Concreting guidance

DIRECTIONS FOR USE

Surface preparation:

Surfaces to which SikaLatex®-141 is to be applied should be clean, sound and free of deleterious substances.

Remove all laitance, oil, grease, mould oil or curing compound from concrete surfaces using wire brush, scabblers or other equipment as appropriate. Ensure that reinforcing steel is clean and free from grease or oil; remove scale and rust. When repairing spalled or damaged concrete, ensure that the concrete has been cut back to sound material.

Bonding slurry:

Wet down absorbent surfaces, such as concrete, brick, stone, etc., ensuring that they are saturated but free of surface water. **Prepare a bonding slurry of 1½ to 2 parts cement to 1-part SikaLatex®-141**, mixed to a lump-free creamy consistency. Using a stiff brush, work the bonding slurry well into the damp surface, ensuring that no pinholes are visible. Do not apply bonding slurry at a thickness more than 2mm. If a second coat is necessary, it must be applied after the first coat is touch dry. The second coat must be applied at right angles to the first to ensure complete coverage. (Approximately 20ltr of SikaLatex®-141 mixed with 50kg of OPC Type I cement will give a creamy slurry which will cover 20 square metres of substrate dependent on surface texture and thickness applied.)

MATERIALS FOR SikaLatex®-141 MODIFIED MIXES

Sand:

Sand should be sharp washed, well graded and free from excessive fines. For general use select a BS 882 C&M (previously Zone 2) sand. For rendering, select a sand complying with BS 1199 Table 1.

Cement:

SikaLatex®-141 is compatible with all types of OPC, sulphate resisting Types II and V. For use with other cements, contact Sika Technical Services Department for advice.

Water:

The strong plasticising action of SikaLatex®-141 greatly reduces the water cement ratio for any given workability.

Specific advice

MIXING

Mixing should preferably be carried out in an efficient concrete mixer - where available a pan type mixer, such as a Creteangle, is recommended. Hand mixing is only permissible when the total weight of the mix is less than 25kg.

Charge the mixer with the required quantity of sand and cement and pre-mix for approx. 1 minute.

Add the SikaLatex®-141 and mix for 2 minutes only, to avoid excessive air entrapment.

Finally, without delay, add the water slowly until the required consistency is achieved. Owing to the strong plasticising properties of SikaLatex®-141 rapid thinning can occur - avoid adding excessive water!

Indicative performance of mortar mix

TYPICAL PROPERTIES*

Unless otherwise stated typical properties are based on a 3:1 sand/cement mix in which 10 litres of SikaLatex®-141 per 50kg of Type I OPC cement has been incorporated.

+Compressive strength - 40N/mm² dependent on cement used and workability

Freeze thaw resistance - Excellent

Water vapour permeability - Less than 4gm/m²/24hr, through an 11mm thick test piece. *

Adhesion - Excellent to concrete, steel, brick, glass, etc.

Co-efficient of thermal expansion -20°C to +20°C: 12.8 x 10⁻⁶
-20°C to +60°C: 12.9 x 10⁻⁶

Chemical resistance - Resists mild acids, alkalis, sulphates, chlorides, urine, dung, lactic acid, sugar, etc.

Resistance to water under pressure – 30m head - Excellent - no water through a 15mm thick test piece. *

+ Indicated strengths are typical. Variation in cement used and workability can give increased strengths.

* SikaLatex®-141 added at 10ltr / 50kg cement.

Curing conditions

Correct curing of SikaLatex®-141 modified mixes is important. Moisture cure for 24 hours and then allow to dry out slowly. (Note that initial curing is necessary to provide good curing conditions for the hydration of the Portland cement, then the latex mortar must be allowed to dry out to permit the latex particles to join to form the continuous films and strands.)

WATCHPOINTS

- Never apply SikaLatex®-141 modified mixes or concrete to a bonding slurry that has been allowed to dry out.
- Always use fresh, cool cement and sharp, clean, well graded aggregate, free of excessive fines.
- Keep mixing time to a minimum - see recommendations.
- Until the user becomes familiar with its workability the appearance of a SikaLatex®-141 modified mix is deceptive; when of correct consistency it may appear to be too dry. However, it will be found that it can be compacted and trowelled satisfactorily. Avoid using excessive water.
- Trowelling should proceed with the work. Do not over-trowel and avoid re-trowelling. Protect from too rapid drying out prior to trowelling.

APPLICATION INFORMATION

Recommended dosage

For all normal use, the standard dose of **5ltr of SikaLatex®-141 per 50kg cement** is adequate.

For extreme conditions and/or when adhesion, waterproofing, water vapour resistance or chemical resistance are critical, the dosage should be increased to **10ltr of SikaLatex®-141 per 50kg cement**. For this higher dosage, the extra water addition required is low and, therefore, use of wet aggregate may result in excessive workability.

Application time

GUIDE TO APPLICATION

Rendering to vertical surfaces:

Apply the bonding slurry to the prepared surface and then apply the SikaLatex®-141 render into the wet bonding slurry.

Apply SikaLatex®-141 modified mortars in coats at a maximum thickness of 6mm per coat. Greater thickness can lead to slumping. Several coats can be applied in fairly rapid succession, usually within 15 to 30 minutes of the previous coat. Close the surface using a wooden float or steel trowel.

Screeds and toppings, applied to horizontal surfaces:

Screeds, patches etc. based on SikaLatex®-141 modified cements, can be laid to any thickness from 60mm down to 6mm minimum. After mixing, the SikaLatex®-141 modified mix should be placed over the still wet bonding slurry, well compacted and struck off to level. It may then be trowelled to the required finish using a wooden float or steel trowel.

Note: Whenever screeds are being laid over existing concrete surfaces, it is important that expansion joints in the sub-floor are carried through the SikaLatex®-141 modified mix. This can be done by fitting a temporary timber batten wrapped in polyethylene sheet into the joint.

SYSTEMS

Compatibility

SikaLatex®-141 is specifically designed for use with Portland cements. It is also compatible with sulphate-resisting cement, Types II and V. Lime (more than 10% cement weight), air entraining agents and masonry cement must not be used in conjunction with SikaLatex®-141.

EFFECTS OF OVER DOSAGE

The recommended levels should not be exceeded. Gross overdosage at an acceptable workability is not likely but will result in an increase of the polymer properties to the detriment of the compressive strength.

BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

FURTHER INFORMATION

EQUIPMENT CARE

All tools should be cleaned with water immediately after use. If delayed, use of soap and coarse wire wool may help. Solvents such as white spirit can be used to remove partially hardened mortar.

ECOLOGY, HEALTH AND SAFETY

Avoid contact with eyes and prolonged contact with skin. During application always wear gloves and appropriate clothing to minimise contact. In case of contact with eyes, immediately flush with plenty of water for at least 15 minutes. Should skin contact occur, wash immediately with soap and water. Seek the advice of a physician should symptoms persist. Consult the Safety Data Sheet (SDS) for detailed information.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the declared data for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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Product Data Sheet

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